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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Seiji Iwai

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WENDEROTH, LIND & PONACK L.L.P.

1030 15th Street, N.W.

Suite 400 East

Washington, DC 20005-1503

EXAMINER

WAITS, ALAN B

ART UNIT

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3656

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.		Applicant(s)	
	10/575,764		IWAI ET AL.	
	Examiner		Art Unit	
	ALAN B. WAITS		3656	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 January 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 7-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 7-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 13 April 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>2/9/2009</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 7-10 and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto et al. US 2003/0200831 in view of Yamanashi USP 5561273.

Matsumoto discloses a similar device comprising:

Re clm 7:

- A robot arm (1 and 2, fig 2) having a cable-passing hole (8, fig 2) formed therein between an exterior and an interior thereof
- Said cable-passing hole having a inner periphery
- A cable bundle (11, fig 2) routed between the exterior and the interior of said robot arm through said cable-passing hole

Matsumoto does not disclose:

- A cylindrical mold guide having an inner peripheral wall and an outer peripheral wall
- Said inner peripheral wall defining an opening therethrough
- Said cylindrical mold guide is fitted in said cable-passing hole such that said outer peripheral wall of said cylindrical mold guide faces said inner periphery of said cable-passing hole

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- A sealant is interposed in a gap between said outer peripheral wall of said cylindrical mold guide and said inner periphery of said cable-passing hole
- Said sealant sealing the gap between said outer peripheral wall of said cylindrical mold guide and said inner periphery of said cable-passing hole
- Said cable bundle extends through said opening defined by said inner peripheral wall of said cylindrical mold guide
- Filler resin fills a space between said cable bundle and said inner peripheral wall of said cylindrical mold guide

Yamanashi teaches a cable bundle connection comprising:

- A cylindrical mold guide (1, fig 1) having an inner peripheral wall (inside of 4, fig 1) and an outer peripheral wall (outside of 4, fig 1)
- Said inner peripheral wall defining an opening (hollow portion of 1, fig 1) therethrough
- Said cylindrical mold guide is fitted in said cable-passing hole such that said outer peripheral wall of said cylindrical mold guide faces said inner periphery of said cable-passing hole (2 of fig 7)
- A sealant (7, fig 1) is interposed in a gap (8, fig 1) between said outer peripheral wall of said cylindrical mold guide and said inner periphery of said cable-passing hole (fig 7)
- Said sealant sealing the gap between said outer peripheral wall of said cylindrical mold guide and said inner periphery of said cable-passing hole

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- Said cable bundle extends through said opening defined by said inner peripheral wall of said cylindrical mold guide (fig 5)
- Filler resin (13, fig 5 and 7) fills a space between said cable bundle and said inner peripheral wall of said cylindrical mold guide

for the purpose of creating a watertight seal (abs) and prevent the deterioration of the seal (col 2, lines 39-40).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Matsumoto and provide:

- A cylindrical mold guide having an inner peripheral wall and an outer peripheral wall
- Said inner peripheral wall defining an opening therethrough
- Said cylindrical mold guide is fitted in said cable-passing hole such that said outer peripheral wall of said cylindrical mold guide faces said inner periphery of said cable-passing hole
- A sealant is interposed in a gap between said outer peripheral wall of said cylindrical mold guide and said inner periphery of said cable-passing hole
- Said sealant sealing the gap between said outer peripheral wall of said cylindrical mold guide and said inner periphery of said cable-passing hole
- Said cable bundle extends through said opening defined by said inner peripheral wall of said cylindrical mold guide
- Filler resin fills a space between said cable bundle and said inner peripheral wall of said cylindrical mold guide

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for the purpose of creating a watertight seal and prevent the deterioration of the seal.

Re clm 8, Yamanashi's cable bundle connection further comprises:

- Said sealant comprises a solid gasket (7, fig 1)

Re clm 9, Yamanashi's cable bundle connection further comprises:

- Said solid gasket comprises an O-ring (7, fig 1)

Re clm 10, Matsumoto further discloses:

- Said cable-passing hole is formed in a vicinity of a joint section of said robot arm (fig 2)

Re clm 19, Matsumoto further discloses:

- Said cable bundle comprises plural filaments (fig 5)
- Said filler resin fills any gaps between said filaments and between said filaments and said inner peripheral wall of said cylindrical mold guide (fig 5)

3. Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto et al. US 2003/0200831 in view of Yamanashi USP 5561273 as applied to claim 7 above, and further in view of Sawamura USP 5270487.

Matsumoto in view of Yamanashi discloses all the claimed subject matter as described above.

Matsumoto in view of Yamanashi does not disclose:

Re clm 11:

- Said filler resin comprises epoxy resin

Sawamura teaches a grommet comprising:

- Said filler resin comprises epoxy resin (col 2, lines 55-59)

Since both Yamanashi and Sawamura teach a grommet with filler resin, it would have been obvious to one of ordinary skill in the art at the time of the invention to substitute the filler resin of Yamanashi with the epoxy resin of Sawamura to achieve the predictable result of sealing the grommet.

4. Claims 12-14 and 20-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto et al. US 2003/0200831 in view of Yamanashi USP 5561273 as applied to claim 7 above, and further in view of Johnston USP 2172705.

Matsumoto in view of Yamanashi discloses all the claimed subject matter as described above.

Matsumoto in view of Yamanashi does not disclose:

Re clm 12 and 20:

- A cable guide tube surrounding a portion of said cable bundle
- Said cable guide tube is disposed outside of said robot arm

Re clm 13 and 21:

- Said cable guide tube comprises a metallic spring
- Said cable guide tube is connected to said mold guide

Re clm 14 and 22:

- Said metallic spring is a metallic coil spring

Johnston teaches:

Re clm 12 and 20:

- A cable guide tube (18, fig 1) surrounding a portion of said cable bundle

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- Said cable guide tube is disposed outside of the device (10, fig 1)

Re clm 13 and 21:

- Said cable guide tube comprises a metallic spring (18 is a spring, fig 1)
- Said cable guide tube is connected to said mold guide (as shown in fig 1)

Re clm 14 and 22:

- Said metallic spring is a metallic coil spring (18 is a coil spring, fig 1)

for the purpose of protecting the cable bundle (col 2, lines 1-3).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Matsumoto in view of Yamanashi and provide:

Re clm 12 and 20:

- A cable guide tube surrounding a portion of said cable bundle
- Said cable guide tube is disposed outside of said robot arm

Re clm 13 and 21:

- Said cable guide tube comprises a metallic spring
- Said cable guide tube is connected to said mold guide

Re clm 14 and 22:

- Said metallic spring is a metallic coil spring

for the purpose of protecting the cable bundle.

5. Claims 7 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto et al. US 2003/0200831 in view of Ochi JP 7-296659.

Matsumoto discloses a similar device comprising:

Re clm 7:

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- A robot arm (1 and 2, fig 2) having a cable-passing hole (8, fig 2) formed therein between an exterior and an interior thereof
- Said cable-passing hole having a inner periphery
- A cable bundle (11, fig 2) routed between the exterior and the interior of said robot arm through said cable-passing hole

Matsumoto does not disclose:

- A cylindrical mold guide having an inner peripheral wall and an outer peripheral wall
- Said inner peripheral wall defining an opening therethrough
- Said cylindrical mold guide is fitted in said cable-passing hole such that said outer peripheral wall of said cylindrical mold guide faces said inner periphery of said cable-passing hole
- A sealant is interposed in a gap between said outer peripheral wall of said cylindrical mold guide and said inner periphery of said cable-passing hole
- Said sealant sealing the gap between said outer peripheral wall of said cylindrical mold guide and said inner periphery of said cable-passing hole
- Said cable bundle extends through said opening defined by said inner peripheral wall of said cylindrical mold guide
- Filler resin fills a space between said cable bundle and said inner peripheral wall of said cylindrical mold guide

Ochi teaches:

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- A cylindrical mold guide (11, fig 1) having an inner peripheral wall (18, fig 2) and an outer peripheral wall (12, fig 2)
- Said inner peripheral wall defining an opening therethrough
- Said cylindrical mold guide is fitted in said cable-passing hole such that said outer peripheral wall of said cylindrical mold guide faces said inner periphery of said cable-passing hole (fig 6)
- A sealant (16, fig 2) is interposed in a gap between said outer peripheral wall of said cylindrical mold guide and said inner periphery of said cable-passing hole
- Said sealant sealing the gap between said outer peripheral wall of said cylindrical mold guide and said inner periphery of said cable-passing hole (fig 6)
- Said cable bundle extends through said opening defined by said inner peripheral wall of said cylindrical mold guide (fig 1)
- Filler resin (abstract) fills a space between said cable bundle and said inner peripheral wall of said cylindrical mold guide

for the purpose of improving waterproofing and reducing cost of production (abstract).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Matsumoto and provide:

- A cylindrical mold guide having an inner peripheral wall and an outer peripheral wall
- Said inner peripheral wall defining an opening therethrough

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- Said cylindrical mold guide is fitted in said cable-passing hole such that said outer peripheral wall of said cylindrical mold guide faces said inner periphery of said cable-passing hole
- A sealant is interposed in a gap between said outer peripheral wall of said cylindrical mold guide and said inner periphery of said cable-passing hole
- Said sealant sealing the gap between said outer peripheral wall of said cylindrical mold guide and said inner periphery of said cable-passing hole
- Said cable bundle extends through said opening defined by said inner peripheral wall of said cylindrical mold guide
- Filler resin fills a space between said cable bundle and said inner peripheral wall of said cylindrical mold guide

for the purpose of improving waterproofing and reducing cost of production.

Re clm 15, Matsumoto further discloses:

- Said opening defined through said inner peripheral wall of said cylindrical mold guide is filled only by said cable bundle and said filler resin (fig 1)

6. Claims 16-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Matsumoto et al. US 2003/0200831 in view of Ochi JP 7-296659 as applied to claim 15 above, and further in view of Johnston USP 2172705.

Matsumoto in view of Ochi discloses all the claimed subject matter as described above.

Matsumoto in view of Ochi does not disclose:

Re clm 16:

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- A cable guide tube surrounding a portion of said cable bundle
- Said cable guide tube is disposed outside of said robot arm

Re clm 17:

- Said cable guide tube comprises a metallic spring
- Said cable guide tube is connected to said mold guide

Re clm 18:

- Said metallic spring is a metallic coil spring

Johnston teaches:

Re clm 16:

- A cable guide tube (18, fig 1) surrounding a portion of said cable bundle
- Said cable guide tube is disposed outside of the device (10, fig 1)

Re clm 17:

- Said cable guide tube comprises a metallic spring (18 is a spring, fig 1)
- Said cable guide tube is connected to said mold guide (as shown in fig 1)

Re clm 18:

- Said metallic spring is a metallic coil spring (18 is a coil spring, fig 1)

for the purpose of protecting the cable bundle (col 2, lines 1-3).

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Matsumoto in view of Ochi and provide:

Re clm 16:

- A cable guide tube surrounding a portion of said cable bundle
- Said cable guide tube is disposed outside of said robot arm

Re clm 17:

- Said cable guide tube comprises a metallic spring
- Said cable guide tube is connected to said mold guide

Re clm 18:

- Said metallic spring is a metallic coil spring

for the purpose of protecting the cable bundle.

Response to Arguments

7. Applicant's arguments with respect to claims 7-22 have been considered but are moot in view of the new ground(s) of rejection.

8. Applicant's arguments filed January 8, 2009 have been fully considered but they are not persuasive.

Applicant argues that Yamanashi is not concerned with relative rotation, and therefore the configuration disclosed therein is not configured to allow for such rotation. It is clearly stated in Matsumoto that the clampers 9 fix the cable to the wrist of the robot (col 4, lines 63-65). The clampers are not what allow for the relative rotation. It is the arrangement of the cables inside the arm that allow for the relative rotation.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Whetherhult et al USP 5398895 discloses a similar spring coil protecting a cable.

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to ALAN B. WAITS whose telephone number is (571)270-3664. The examiner can normally be reached on Monday through Friday 7:30 am to 5 pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Ridley can be reached on 571-272-6917. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Alan B Waits/
Examiner, Art Unit 3656

/Richard WL Ridley/
Supervisory Patent Examiner, Art Unit 3656